"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SOV/137-58-9-18246

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 4 (USSR)

AUTHORS: Tyurenkov, N. G., Suvorov, F. S.

TITLE: Concentration of Bakal Ores (Obogashcheniye bakal'skikh rud)

PERIODICAL: V sb.: Vopr. razvitiya Bakal'sk. rudn. bazy. Sverdlovsk, 1957, pp 201-210

ABSTRACT: The results of investigations on the capacity for concentration of Bakal ores are presented. It is noted that ~75% of these ores can be prepared for smelting by drying, screening, and agglomeration of fines. The remaining portion of the ores would demand more complicated procedures with magnetizing roasting followed by magnetic separation. The most important problems demanding solution in further investigation are indicated.

1. Ores--Concentrates 2. Ores--Preparation 3. Ores --Separation 4. Ores--Analysis

I. M.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SOV/137-58-9-18293

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 10 (USSR)

AUTHORS: Suvorov, F. S., Kvaskov, A. P.

TITLE: The Concentration of Magnetite Ores of Northern Ural (Obogashcheniye magnetitovykh rud Severnogo Urala)

PERIODICAL: Tr. N.-i. i proyektn. in-ta "Uralmekhanobr", 1957, Nr 1, pp 98-105

ABSTRACT: The results are given of the investigation of the feasibility of concentration of Fe ores from the Northern Ural originating at the Auerbakhovsk, Severo-Peschanskoye, Maslovo, and the 2nd Severnyy mines, which constitute the raw material base for the Serov metallurgical plant. The magnetite ores of the deposits enumerated contain magnetite, hematite, martite, limonite, pyrite, pyrrhotite, chalcopyrite, covellite, and sphalerite. The Fe content of the ore mass is 30 - 50%. According to the conditions of the plant the agglomerate should contain 55 - 58% Fe, up to 0.1% Cu and ≥ 0.15% P. The dressing procedure developed includes the following main operations: a) crushing of the initial ore to 25(35) - 0mm and dry separation; b) wet magnetic separation for obtaining the

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SOV/137-58-9-18293

The Concentration of Magnetite Ores of Northern Ural

Fe concentrate; c) apatite flotation to remove the phosphorus; d) sulfide flotation to obtain Cu and Cu-FeS_2 concentrate; d) magnetic control separation of the tailings of the flotation for supplementary extraction of Fe; e) agglomeration of the Fe concentrates. The results of the investigation of the feasibility of concentrating ores of the Northern Ural deposits are laid as the basis for the layout of the Serov ore-dressing plant.

1. Magnetite ores--Concentration 2. Magnetite ores--Test results E. V.

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, F.S.

Technical methods in dressing carbonate manganese ores from Northern Ural deposits. Trudy Inst. met. UFAN SSSR no.7:53-67 '61. (MIRA 16:6)

(Ural Mountains--Manganese ores)
(Ural Mountains--Carbonates)
(Ore dressing)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, G.; KHINKIS, A.; CHURILIN, M.

First to win the title. Metallurg 6 no.7:27-29 Jl '61. (MIRA 14:6)

1. Magnitogorskiy metallurgicheskiy gombinat.
(Magnitogorsk--Metallurgical plants)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, G.D.

Mathematical Reviews
Vol. 15 No. 3
March 1954
Topology

7-13-54
LL

Súvorov, G. D. Prime ends of a sequence of plane regions converging to a nucleus. Mat. Sbornik N.S. 33(75), 73–100 (1953). (Russian)

The author shows that the whole theory of prime ends developed by Carathéodory for a single simply-connected plane domain [Math. Ann. 73, 323–370 (1913)] fits in even better, and with almost no change of wording, when this single domain is replaced by a notion which Carathéodory had himself previously introduced [ibid. 72, 107–144 (1912)], namely that of a sequence of domains converging to a nucleus. In terms of the new prime ends, the author is able to restate many of Carathéodory's results in a more general setting and he observes that there are similar extensions of recent work of J. Lelong-Ferrand [J. Math. Pures Appl. (9) 31, 103–126, 245–252 (1952); these Rev. 14, 36].

L. C. Young (Madison, Wis.).

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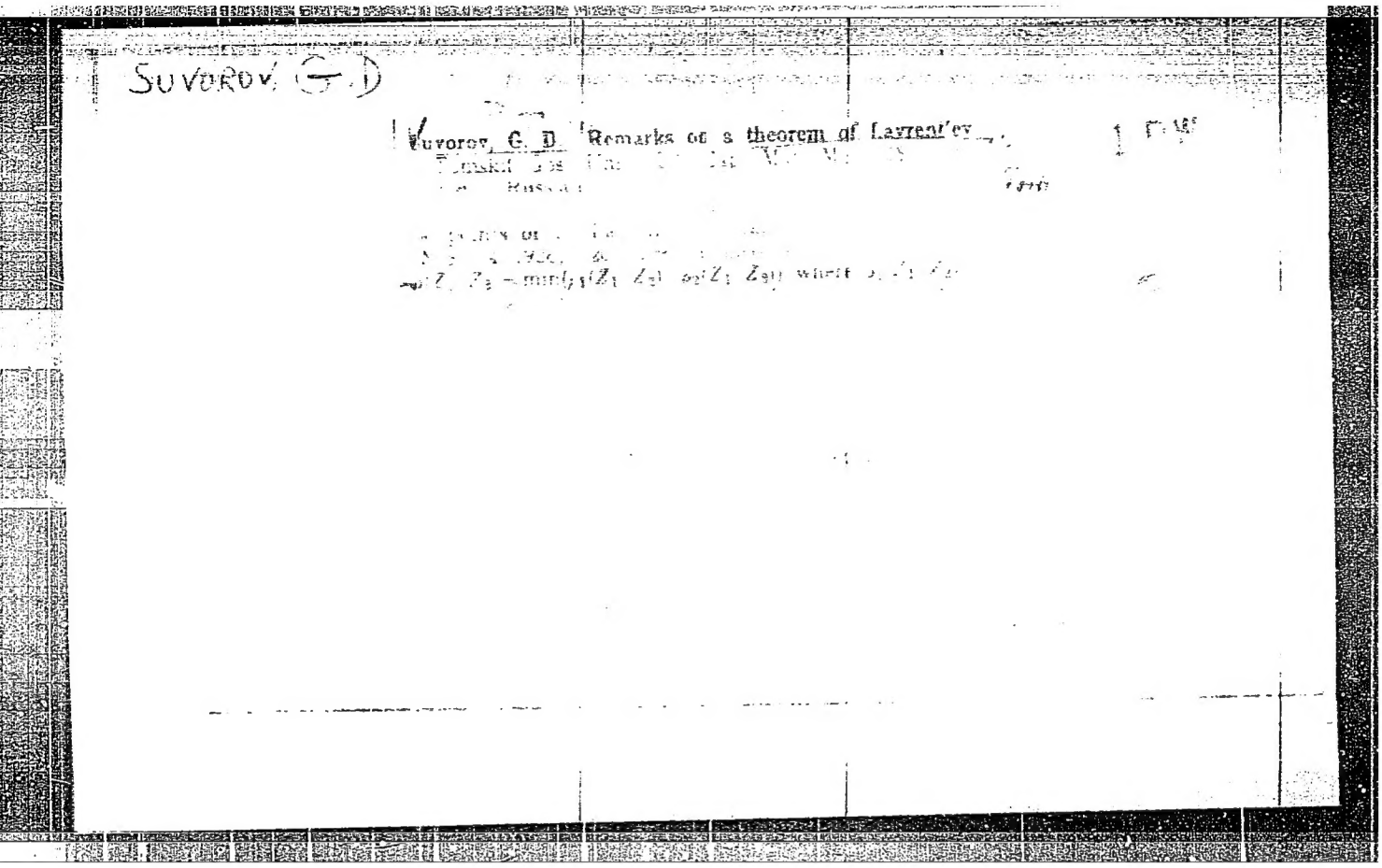

SUVOROV (G.D)

Suvorov, G. D. Remarks on a theorem of Lavrent'ev

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, G.D.

Call Nr: AF 1108825

Transactions of the Third All-union Mathematical Congress (Cont.) Moscow, Jun-Jul '56, Trudy '56, V. I, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.

Sofronov, I. D. (Moscow). On Approximate Solution of Singular Integral Equations. 102-103

Stechkin, S. B. (Moscow). Problem of Absolute Convergence of the Orthogonal Series. 103

There is 1 USSR reference.

Suvorov, G. D. (Tomsk). On the Continuity of Univalent Mappings of Arbitrary Closed Regions. 103-104

Mention is made of Lavrent'yev, M. A.

Suyetin, P. K. (Ural'sk). On Polynomials, Which are Orthogonal in Area. 105

Talalyan, A. A.(Yerevan). On the Convergence Almost Everywhere of Orthogonal Series. 105

Card 32/80

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, G. D.

3

Suvorov, G. D. [illegible] the continuity in the closed circle of [illegible] the open circle. Uspehi Mat Nauk 1-F W

[illegible]
MT

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, G. D.

Suvorov, G. D. On the order of equicontinuity of a class of [illegible] domains. Dokl. Akad. N. [illegible] (Russian) [illegible] map the [illegible] containing [illegible]

[illegible] $\iota_\nu \leq k < \infty$

[illegible] Ferrand, J. Math. Pures Appl. (9) 31 (1952), [illegible] MR 14, [illegible] Then if z_1 and z_2 are [illegible]

$$(*) \quad \varrho[T(z_1), T(z_2); \Delta] < A(k, \delta) \log \left[\frac{\delta \sqrt{3}}{2\varrho(z_1, z_2; D)} \right]^{-\delta},$$

where $A(k, \delta)$ depends only on k and δ. The metric ϱ, with respect to which the "boundary" of D is defined, is too complicated to be reproduced here, the important point being that "boundary" points correspond to prime ends. When D is the open unit disk, and $T(z)$ is a schlicht analytic function, then (*) simplifies into a result of Lavrentiev [C. R. (Dokl.) Acad. Sci. URSS (N. S.) 4 (1936), 215-21[illegible]. E. Reich (Minneapolis, Minn.).

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, G.D.

SUBJECT USSR/MATHEMATICS/Theory of functions CARD 1/1 PG - 355
AUTHOR SUWOROV G.D.
TITLE On the continuity of schlicht mappings of arbitrary closed regions.
PERIODICAL Doklady Akad. Nauk 108, 777-779 (1956)
reviewed 11/1956

In an earlier paper (Doklady Akad. Nauk 107, 1, (1956)) the author has formulated a theorem on the order of the equicontinuity of a certain class of schlicht mappings. There it was assumed that the considered regions and their images are bounded. Now, the author formulates (without proof) a theorem which permits to make similar assertions in the three other cases, namely if the considered region, or the image, or the region and the image are unbounded.

INSTITUTION: University, Tomsk.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

16(1)
AUTHORS: Prilepko,A.I., and Suvorov,G.D. SOV/42-14-1-18/27

TITLE: An Existence Theorem for Convergent Sequences of Analytic Functions (Odna teorema sushchestvovaniya dlya skhodyashchikhsya posledovatel'nostey analiticheskikh funktsiy)

PERIODICAL: Uspekhi matematicheskikh nauk,1959,Vol 14,Nr 1,pp 215-218(USSR)

ABSTRACT: Theorem: In the w-plane let be given a bounded continuum K. Let the point w_0 belong to that component of the complement of K which contains the infinitely far point. Then there exists a sequence of schlicht functions $\{f_n(z)\}$, $f_n(0) = w_0$, $f_n'(0) > 0$, analytic in $|z| < 1$ which converges uniformly in $|z| < 1$, and a point z_0 on $|z| = 1$ so that the set of all points of condensation of arbitrary sequences $\{f_n(z_n)\}$, $\lim_{n\to\infty} z_n = z_0$, $|z_n| < 1$ is identical with K.
There are 4 references, 3 of which are Soviet, and 1 German.

SUBMITTED: July 18, 1957

Card 1/1

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

16(1)

AUTHOR: Suvorov,G.D.

SOV/39-48-2-7/9

TITLE: Corrections to the Paper "On the Deformation of the Distances for Schlicht Mappings of Closed Simply Connected Domains"

PERIODICAL: Matematicheskiy sbornik, 1959,Vol 48,Nr 2,pp 251-252 (USSR)

ABSTRACT: The author gives some corrections of the above mentioned paper (Matematicheskiy sbornik, 1958,Vol 45,pp 159-180). By a change of a definition and corresponding changes in the proofs all results remain true.

SUBMITTED: February 19, 1959

Card 1/1

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

16(1)

AUTHOR: Suvorov,G.D.

SOV/20-124-4-11/67

TITLE: Boundary Correspondence in Topological Mapping of Plane Regions with a Variable Boundaries (Sootvetstviye granits pri topologicheskikh otobrazheniyakh ploskikh oblastey s peremennymi granitsami)

PERIODICAL: Doklady Akademii nauk SSSR,1959,Vol 124,Nr 4,pp 772-774 (USSR)

ABSTRACT: It is shown that the theory of simple ends of plane sequences of domains converging to a non-degenerated kernel, holds not only for conformal mappings (compare Suvorov [Ref 1]) but for more general mappings too (e.g. for quasiconformal, harmonic, etc. mappings). The results partly overlap with those of Lelong-Ferrand.
There are 5 references, 3 of which are Soviet, and 2 French.

ASSOCIATION: Tomskiy gosudarstvennyy universitet imeni V.V.Kuybysheva (Tomsk State University imeni V.V.Kuybyshev)

PRESENTED: October 13, 1958, by M.A.Lavrent'yev, Academician

SUBMITTED: October 7, 1958

Card 1/1

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

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SOV/20-129-3-6/70

16(1) 16.5400

AUTHORS: Ionin, V.K., and Suvorov, G.D.

TITLE: On the Components of the Level Sets of the Function - Distance to a Plane Continuum

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 3, pp 496-498 (USSR)

ABSTRACT: Let K be a bounded continuum in the plane P and $r = \varrho(M,K) \equiv \varrho(M)$ be the distance between the point $M \in P$ and K. The level set E_r of $\varrho(M)$ is the set of all $M \in P$ for which $\varrho(M) = r$.

Theorem: Let E_r^α be a component of E_r; let G_r^α be that connected component of the open set $P \setminus E_r^\alpha$ which contains K; let $G_r^{\alpha *}$ be the boundary of G_r^α. Then all simple ends of G_r^α contain one point each; it is $E_r^\alpha = G_r^{\alpha *}$ and it holds:

I. For all $r > 0$ the E_r^α may belong only to the following types: 1. simple closed rectifiable Jordan curve; 2. simple open smooth Jordan arc; 3. sum of finitely or countably many closed simple Jordan curves, smooth arcs, etc.; 4. point.

II. The closed curves in the types 1 and 3 have no tangent in at most countably many points (corner points). The ramification points in type 3 are points of regression.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

On the Components of the Level Sets of the Function-Distance to a Plane Continuum

III. Components of the type 2 and 3 are possible at most for countably many level sets E_r. If the components of the type 1 in a countable number appear also only for countably many level sets, then at most countably many level sets have the components of the type 4.

IV. Let $\Delta = \Delta(\alpha, r, \delta)$ be the set of those points of G_r^α the distance of which from E_r^α is smaller than δ, $0 < \delta < r$. Let Δ^* be the boundary of Δ. Then $\Delta^* \setminus E_r^\alpha = \Gamma(\alpha, r, \delta)$ is a simple closed smooth Jordan curve. Let $l(\alpha, r, \delta)$ be its length and $l(\alpha, r)$ be the "length" (defined below) of E_r. Then

(1) $$l(\alpha, r) = l(\alpha, r, \delta) \pm 2\pi\delta.$$

The set $\bigcup_{0<\delta<r} \Gamma(\alpha, r, \delta)$ is a two times connected region and $S(\alpha, r)$ its area; it is

(2) $$l(\alpha, r) = \frac{S(\alpha, r) \pm \pi r^2}{r}.$$

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

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16(1)

AUTHOR: Suvorov, G.D.

TITLE: A Theorem on the Sequences of Topological Mappings of Regions Belonging to Compacts

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 4, pp 744-746 (USSR)

ABSTRACT: Theorem: Let $\{A_n\}$, n=1,2,..., be a sequence of domains of the compact metric space (X,ρ) (with the metric ρ) having a non-degenerated kernel with respect to the point 0. Let $\{T_n(x)\}$ be a sequence of topological mappings of A_n onto domains B_n of the compactum (Y,r), where $T_n(0) = 0'$, n=1,2,... . Let the following conditions be satisfied: a) The mappings of an arbitrary subsequence $\{T_{\tilde{n}}\} \subset \{T_n\}$ (or $\{T_{\tilde{n}}^{-1}\} \subset \{T_n^{-1}\}$) are simultaneously open in the kernel with respect to the point 0 (or with respect to 0') of this subsequence; b) the mappings $\{T_{\tilde{n}}\}$ (or $T_{\tilde{n}}^{-1}$) are simultaneously continuous inside of the kernel (with respect to 0) of the sequence $\{A_{\tilde{n}}\}$ (or with respect to 0' of the sequence $\{B_{\tilde{n}}\}$). Under the given assumptions, a sequence of integers $\{p_n\}$ can be

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A Theorem on the Sequences of Topological Mappings of Regions Belonging to Compacts SOV/20-129-4-8/68

defined so that α) $\{A_{p_n}\}$ converges to A_o as a kernel; β) $\{B_{p_n}\}$ converges to B_o, as a kernel; γ) $\{T_{p_n}\}$ converges uniformly inside of A_o to the topological mapping T of the domain A_o on B_o, ; δ) $\{T^{-1}_{p_n}\}$ converges uniformly inside of B_o, to T^{-1}.

The definitions of the notions kernel etc. are analogous to those in the plane case.
There are 3 references, 2 of which are Soviet and 1 French.

ASSOCIATION: Tomskiy gosudarstvennyy universitet imeni V.V.Kuybysheva (Tomsk State University imeni V.V.Kuybyshev)

PRESENTED: July 8, 1959, by M.A.Lavrent'yev, Academician

SUBMITTED: July 2, 1959

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, G. D. Doc Phys-Math Sci -- "Basic properties of certain general classes of topological transformations of plane ~~regions~~ fields with variable boundaries." Novosibirsk, 1960 (Acad Sci USSR. Siberian Department. Joint Academic Council for Phys-Math and Tech Sci). (KL, 4-61, 182)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, G.D.

Deformation of distances in univalent Q-quasiconformal mappings of plane regions. Sib. mat. zhur. 1 no.3:492-522 S-O '60.
(MIRA 14:2)

(Conformal mappings)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

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29811
S/020/61/140/006/005/030
C111/C444

AUTHOR: Suvorov, G. D.

TITLE: The "length and area" principle for Q-quasiconformal mappings

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 140, no. 6, 1961, 1267-1269

TEXT: In this paper the so-called "length and area" principle, see V. K. Kheyman (Ref. 1: Mnogolistnyye funktsii, 1960 [Multivalent functions]) is generalised to the non-schlicht Q-quasiconformal mappings. In the arbitrary domain D of the z-plane a continuous distribution of characteristics $(q(z), \Theta(z))$ be given; let $w = T(z)$ be the inner (in the sense of S. Stoilov) quasiconformal mapping of D into the plane $w = u + iv$, see L. J. Volkovsyskiy (Ref. 3: Kvazikonformnye otobrazheniya [Quasiconformal Mappings] Izd. L'vovsk. univ., 1954, p. 26) with the mentioned characteristics. Let $\infty \bar{\in} D$. As in ref. 1 let $n(w)$ be the number of roots of $T(z) = w$. $n = n(w)$ being measurable, one may put

$$P(R) = P(R,D,T) = \frac{1}{2\pi} \int_0^{2\pi} n(Re^{i\Psi})\, d\varphi$$

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

The "length and area" principle . . .

where the integral is a Lebesgue integral. In the z-plane the spherical metric (r) is considered which is obtained by stereographic projection of the z-plane on the Riemannian sphere with the radius r which touches the plane in the origin of coordinates.

Theorem 1: Let $w = T(z)$ be a Q-quasiconformal ($q(z) \leq Q$) inner mapping of D into the w-plane. If $L_r(R) \equiv L_r(R,D,T)$ is the total length (in the spherical metric (r)) of the curves in D on which $|T(z)| = R$, then

$$\int_0^\infty \frac{L_r^2(R)dr}{RP(R)} \leqslant 2\pi Q S_r(D) \qquad (1)$$

where $S_r(D)$ is the spherical area of D. If D has the finite area S(D) in the ordinary Euclidean metric, there follows from (1) for $r \to \infty$

$$\int_0^\infty \frac{L^2(R)}{RP(R)}\, dR \leqslant 2\pi Q S(R) \qquad (2)$$

where $L(R) = \lim_{r \to \infty} L_r(R)$. For Q = 1 one obtains the inequality on

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C111/C444

The "length and area" principle . . .

which ref. 1 is based.

For application of (1), (2) the following examples are given:

1) if D is: $|z| < 1$ and $T(z) \neq 0$ in D and $|T(0)| = R_1$, $|T(re^{i\varphi})| = R_2$ for $0 < r < 1$, $0 \leq \varphi < 2$, then

$$\left| \int_{R_1}^{R_2} \frac{dR}{RP(R)} \right| \leq 2Q \left(\ln \frac{1+r}{1-r} + \pi \right) \qquad (3)$$

2) if $\int_0^R P(\varsigma, D, T)\, d\varsigma^2 \leq pR^2$, $0 < R < \infty$ ($p > 0$ and not necessarily an integer) (Ref. 1, p. 32), (supposing $T \neq 0$ in D, $0 < r < 1$), then

$$\frac{|T(0)|}{e^{2pQ+1/2}} \left(\frac{1-r}{1+r} \right)^{2pQ} < |T(re^{i\varphi})| < |T(0)|\, e^{2pQ+1/2} \left(\frac{1+r}{1-r} \right)^{2pQ} \qquad (5).$$

Now let D be simply connected, $\infty \bar{\in}$ D. Let $\varsigma_1 = \xi_1 + i\eta$, $\varsigma_2 = \xi_2 + i\eta_2$,

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The "length and area" principle . . .

$\xi_1 < \xi_2$ be two attainable boundary points of D. The straight lines Re $z = x$, $\xi_1 < x < \xi_2$ meet D in at most denumerabley many lines. Each of these lines divides D into two subdomains. One of these subsets Q_x separates ζ_1 and ζ_2 in D. Let $\theta(x)$ be the length of θ_x (in the Euclidean metric). Let $w = u+iv \equiv T(z)$ be a Q-quasiconformal mapping of D onto the strip $|v| < a/2$, $a > 0$, such that ζ_1, ζ_2 are transformed into $u = -\infty$ and $u = +\infty$. Let $\xi_1 < x_1 < x < x_2 < \xi_2$. Under this mapping Q_x changes into the continuous curve l_x which joins the straight lines $v = \pm a/2$. If $u_2(x)$ is the largest and $u_1(x)$ the smallest value of u on l_x, then it holds:

Theorem 2: if

$$\int_{x_1}^{x_2} \frac{dx}{\theta(x)} > 2 \text{ , then}$$

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, G. D.

"Topological mappings of plane regions with variable boundaries"

report submitted at the Intl Conf of Mathematics, Stockholm, Sweden, 15-22 Aug 62

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, G.D.

Fundamental properties of certain general classes of topological mappings of plane regions with variable boundaries. Usp.mat.nauk 17 no.3:221-226 My-Je '62. (MIRA 15:12)
(Topology)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, G.D.

Univalent mappings of plane regions and generalized zero-measure sets of simple ends of the respective region. Dokl. AN SSSR 152 no.2:296-298 S '63. (MIRA 16:11)

1. Tomskiy gosudarstvennyy universitet im. V.V. Kuybysheva. Predstavleno akademikom M.A. Lavrent'yevym.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, G.D.

Fundamental theorem on the correspondence of boundaries for a sequence of class BL_k topological mappings of plane regions. Sib. mat. zhur. 5 no.5:1152-1162 S-O '64.

(MIRA 17:11)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

ACCESSION NR: AP4013319 S/0020/64/154/003/0523/0526

AUTHORS: Ovchinnikov, I.S.; Suvorov, G.D.

TITLE: Transformation of the Direchlet integral and space mapping

SOURCE: AN SSSR. Doklady*, v. 154, no. 3, 1964, 523-526

TOPIC TAGS: Direchlet integral, Direchlet integral transformation, space mapping, three dimensional mapping, conformal mapping, topology, fundamental sequence, Cauchy sequence

ABSTRACT: The inequality expressing the length and area principle has found wide application in the theory of plane mappings (conformal, quasi-conformal and the more general ones). This inequality, as well as a number of its modifications, can be obtained by simple transformations of the Direchlet integral for a plane representation. If the problem is to find a class of representations, a class of admissible domains and the relative distances introduced by compatibility, then the problem of boundary agreement with the topological representation $y = T(x)$, $x \in A$, $y \in B$ can be reduced to

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ACCESSION NR: AP4013319

prove that, with a direct and inverse representation T and T^{-1} Cauchy sequence will turn into the fundamental. This problem is automatically solved if it is possible to find the functions $\varphi_1(\alpha)$ and $\varphi_2(\alpha)$ so that $\varphi_1(\alpha) \to 0$ with $\alpha \to 0$, and such that

$$\varphi_1[\rho_A(x', x'')] \leqslant r_B[T(x'), T(x'')] \leqslant \varphi_2[\rho_A(x', x'')] \quad (1)$$

for any points x', $x'' \in A$ which are sufficiently close with respect to ρ_A. This was expanded to apply to three dimensional mapping. The examined classes of representations include the class of Q-quasiconformal mappings, translating the domains into domains with a bounded volume. The classes of the D and Δ domains can be expanded by means of introducing a spherical metric, defining the relative distances by this metric and examining the spherical analogy of the Direchlet integral. This method can permit simplification even in an n-dimensional case. Orig. art. has: 8 equations.

ASSOCIATION: Towskiy gosudarstvenny*y universitet im. V.V.

Card 2/3

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

ACCESSION NR: AP4013319

Kuyby*sheva (Towsk State University)

SUBMITTED: 30Aug63	DATE ACQ: 26Feb64	ENCL: 00
SUB CODE: MM	NO REF SOV: 002	OTHER: 001

Card 3/3

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, G.D.

Metric properties of plane univalent mappings of closed regions. Dokl. AN SSSR 157 no.4:802-805 Ag '64 (MIRA 17:8)

1. Tomskiy gosudarstvennyy universitet im. V.V. Kuybysheva. Predstavleno akademikom M.A. Lavrent'yevym.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

OVCHINNIKOV, I.S.; SUVOROV, G.D.

Transformations of the Dirichlet integral and mappings in space. Sib. mat. zhur. 6 no.6:1292-1314 N-D '65. (MIRA 18:12)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, Georgiy Dmitriyevich; ZAYTSEVA, I.P., red.

[Families of plane topological mappings] Semeistva ploskikh topologicheskikh otobrazhenii. Novosibirsk, Red.-izd. otdel Sibirskogo otd-niia AN SSSR, 1965. 264 p. (MIRA 19:1)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

L 37753-66 EWT(d)/T IJP(c)

ACC NR: AP6014527 SOURCE CODE: UR/0199/65/006/006/1292/1314

35
B

AUTHORS: Ovchinnikov, I. S.; Suvorov, G. D.

ORG: none

TITLE: Dirichlet-integral transforms and three-dimensional mappings 16

SOURCE: Sibirskiy matematicheskiy zhurnal, v. 6, no. 6, 1965, 1292-1314

TOPIC TAGS: integral transform, mapping, conformal mapping, partial derivative, bounded function, Euclidean space, vector function, continuous function, DIRICHLET PROBLEM

ABSTRACT: Proofs of theorems announced earlier (I. S. Ovchinnikov and G. D. Suvorov. Preobrazovaniya integrala Dirikhle i prostranstvennyye otobrazheniya, Doklady Ak. nauk SSSR, 154, No. 3 (1964), 523-526) are given. The principal theorem of the method is expressed by the inequality

$$\int_{r_1}^{r_2} \frac{\Omega^2(r)}{r}\,dr \leqslant M_0 I(f, D_{r_1;r_2}) \leqslant M_0 I(f, D),$$

where $M_0 = \frac{(8\pi)^{\frac{1}{3}}}{\Gamma^4(3/4)}$ and $D_{r_1;r_2} = \bigcup_{r\in[r_1,r_2]} S_r'$. It is shown that for all values of r, the integral

$$\int_{S_r'} \Lambda(f, x)\,ds$$

UDC: 517.54

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ACC NR: AP6014527

is finite. A theorem containing the upper bound of distortions of ordinary distances within an arbitrary domain for monotone mappings is given. The concept of relative distance in a metric domain is introduced

$$\rho(x', x''; D \setminus 0) = \inf d[K].$$

The upper bound of the relative distance in a closed domain-image is given in terms of the Euclidean distance in the closed sphere-original. The upper and lower bounds of distortions of Euclidean distances in closed spheres mapped onto one another are proved.

$$\varphi_1(\|x' - x''\|) < \|f(x') - f(x'')\| < \varphi_2(\|x' - x''\|),$$

$$\varphi_1(\alpha) \equiv {}^1/_2 \exp\left[-4M_0 I(f^{-1}, \Delta)\, 1/\alpha^2\right],$$

$$\varphi_2(\alpha) \equiv [4M_0 I(f, D)]^{1/2} \ln^{-1/2} 1/2\alpha.$$

The first example of mapping shows the impossibility of obtaining in general a nontrivial lower bound of distortion of relative distances in mappings of a closed Jordan domain. The second mapping example shows the impossibility of an upper bound in the same general situation. Orig. art. has: 48 formulas.

SUB CODE: 08,12/ SUBM DATE: 20Jul64/ ORIG REF: 011/ OTH REF: 005

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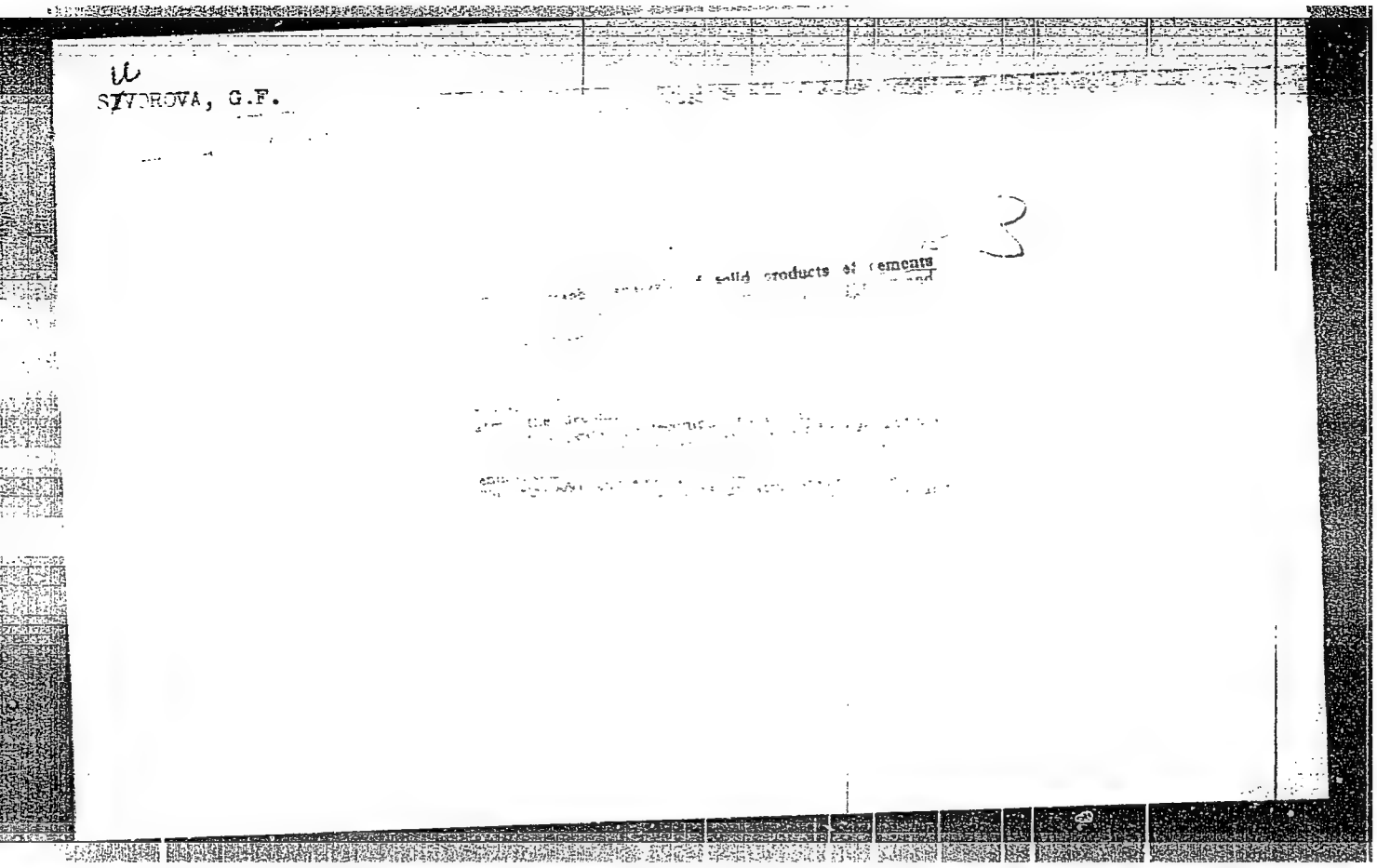

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

BOGORODINSKIY, D.K.; SUVOROV, G.P.

Clinical aspects of craniovertebral tumors. Zhur. nevr. i psikh. 61 no.4:497-500 '61. (MIRA 14:7)

1. Kafedra nervnykh bolezney (zav. - prof. D.K.Bogordinskiy) I Leningradskogo meditsinskogo instituta imeni I.P.Pavlova.
(NERVOUS SYSTEM--TUMORS)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, G. S.

USSR/Mathematics - Schlicht Functions Jun/Aug 53

"Simple Termini of a Sequence of Plane Regions That Converges to a Nucleus," G. S. Suvorov, Tomsk

Mat Sbor, Vol 33 (75), No 1, pp 73-100

Systematically studies sequences of schlicht functions $f_n(z)$ that are continuously convergent in a circle. Cites the related work of A. I. Markushevich ("Conformal Representation of Regions with Variable Boundaries," Mat Sbor. 1 (43), 1936). Presented 19 Jul 52.

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, G. V. Cand. Med. Sci.

Dissertation: "Lyophilic Desiccation as a Method of Preserving Standard Strains." Central Inst. for Advanced Training of Physicians. 16 Dec 47.

SO: Vechernyaya Moskva, Dec, 1947 (Project #17836)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

S/271/63/000/003/010/049
A060/A126

AUTHOR: Suvorov, G.V.

TITLE: Graphic method of constructing transient processes in an automatic regulation system

PERIODICAL: Referativnyy zhurnal, Avtomatika, telemekhanika i vychislitel'naya tekhnika, no. 3, 1963, 50 - 51, abstract 3A287 (In collection "Elektroprivod i avtomatiz. prom. ustanovok", Moscow - Leningrad, Gosenergoizdat, 1960, 68)

TEXT: The author proposes a method of construction for transient processes in automatic regulation systems. The essence of the method consists in the following: 1) a system of first-order differential equations in dimensionless relative units is constructed for the given system; 2) the values of all the quantities which enter in the equations of the system in the time-interval Δt are determined. This method makes it possible to raise the precision even when a large time-step is used for integration.

[Abstracter's note: Complete translation] M. M.

Card 1/1

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

PHASE I BOOK EXPLOITATION SOV/4599

Vsesoyuznoye ob"yedinennoye soveshchaniye po avtomatizatsii proizvodstvennykh protsessov v mashinostroyenii i avtomatizirovannomu elektroprivodu v promyshlennosti. 3d, Moscow, 1959

Elektroprivod i avtomatizatsiya promyshlennykh ustanovok; trudy soveshchaniya (Electric Drive and Automation in Industrial Systems; Transactions of the Conference) Moscow, Gosenergoizdat, 1960. 470 p. 11,000 copies printed.

General Eds.: I.I. Petrov, A.A. Sirotin, and M.G. Chilikin; Eds.: I.I. Sud, and E.F. Silayev; Tech. Eds.: K.P. Voronin, and G.Ye. Larionov.

PURPOSE: The collection of reports is intended for the scientific and technical personnel of scientific research institutes, plants and schools of higher education.

COVERAGE: The book is a collection of reports submitted by scientific workers at plants, scientific institutes and schools of higher education at the third Joint All-Union Conference on the Automation of Industrial Processes in Machine Building and Automated Electric Drives in Industry held in Moscow on May 12-16, 1959. The Conference was called by the Academy of Sciences USSR, the Gosplan SSSR (State Planning Commission USSR), the GNTK SSSR, the Gosudarstvennyy Komitet po avtomatizatsii i mashinostroyeniyu (State Committee on Automation and Machine Building) and the Natsional'nyy Komitet SSSR po avtomaticheskomu upravleniyu (USSR National Committee on Automatic Controls) and prepared by the Nauchno-tekhnicheskiy komitet po avtomatizirovannomu elektroprivodu (Scientific and Technical Committee on Automated Electric Drives), the MEI (Moscow Institute of Energetics), the VNIIEM, the IAT (Institute of Automation and Telemechanics) of the Academy of Sciences USSR, and the Komissiya po tekhnologii mashinostroyeniya Instituta mashinovedeniya AN SSSR (Commission on the Technology of Machine Building of the Institute of Science of Machines of the Academy of Sciences USSR). It was the purpose of the Editorial Board to arrange the reports in a way which would ensure a relatively systematic presentation of theoretical and practical problems relating to electric drives and automatic controls of industrial mechanisms used in various branches of industry. Basic problems of automated electric drive and their solution are outlined. The book also contains articles on electric machinery and means of automation. Considerable attention is paid to non-contact automatic control systems, including systems with semiconductor devices and magnetic amplifiers, and to computers intended both for the analysis and the synthesis of linear and nonlinear automatic regulation and control systems. Reports already published in journals or official publications have been considerably abbreviated; those which have appeared in volume V of NII EP transactions or in the journal "Elektrichestvo" are marked with an asterisk. No personalities are mentioned. References accompany some of the papers.

PART I. GENERAL PROBLEMS CONCERNING THE THEORY AND PRACTICE OF ELECTRIC DRIVE AND AUTOMATION OF CONTROL

Kagan, B.M., Doctor of Technical Sciences, T.G. Sorokar, Professor, Doctor of Technical Sciences, Yu.V. Mordvinov and Ye.B. Plamod'yalo, Engineers. Automation of the Calculations of Electric Drives by Means of Electronic Digital Computers" 41

Baltrushevich, A.V., Engineer. Stability of One Type of Digital Servo-systems 44

Reyngol'd, Yu.R., Engineer. Investigation of the Dynamic Properties of a Motor-Generator System by the Method of Experimental Frequency-Response Characteristics 49

Shubenko, V.A., Candidate of Technical Sciences, Docent. Transient Electromagnetic Phenomena in Induction Motors and Their Effect on the Dynamics and Operational Reliability of Automated Electric Drives 58

Suvorov, G.V., Engineer. Graphic Method of Designing Transient Processes in an Automatic Regulation System 68

Shraybman, B.M., Engineer. Determining Amplitude-Phase Characteristics of an Automated Electric Drive on the Basis of Transient Functions 69

Kadymov, Ya.B., Candidate of Technical Sciences. Problems of Electric Drives of Mechanisms Containing Links With Distributed Parameters 70

Agafonov, Yu.P., Engineer. Effect of Transient Electromagnetic Processes on Pulse Regulation Dynamics of Squirrel-Cage Induction Motors 76

Radchenko, L.A., Candidate of Technical Sciences, Docent. Dynamics of Induction Electric Drives Controlled According to V.S. Kulebakin's Scheme 77

Drobyazko, S.F., Candidate of Technical Sciences. Absorbing Brake Equilibrium in Electric Drives With Individual Generating Sets 78

Basharin, A.V., Professor, Doctor of Technical Sciences. Graphic Method of Synthesis of Electric-Drive Automatic-Control Systems 79

Rosenblat, M.A., Doctor of Technical Sciences, and M.A. Boyarchenkov, Engineer. Reversing D-C Drive With Magnetic Amplifiers 86

SUVOROV, G.V.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

LEVINTOV, S.D., kand.tekhn.nauk; SUVOROV, G.V., inzh.

Concerning the measurement of the r.m.s. value of the current of electric motors. Prom. energ. 15 no.7:24-26 Jl '60. (MIRA 15:1)
(Electric motors)
(Electric currents, Alternating--Measurement)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

BORTSOV, Yuriy Anatol'yevich, kand.tekhn.nauk, ispolnyayushchiy obyazannosti dotsenta; SUVOROV, Gennadiy Vasil'yevich, starshiy prepodavatel'; TANEYEV, Yuriy Aleksandrovich, inzh.

Use of mathematical simulation for improving the dynamic properties of the electric drive of the Blooming shears. Izv. vys. ucheb. zav.; elektromekh. 4 no.4:54-61 '61. (MIRA 14:7)

1. Kafedra elektrooborudovaniya promyshlennykh predpriyatiy Chelyabinskogo politekhnicheskogo instituta (for Bortsov, Suvorov). 2. Chelyabinskiy metallurgicheskiy zavod (for Taneyev).

(Electric driving)
(Electromechanical analogies)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

BORTSOV, Yu.A., kand. tekhn. nauk; SUVOROV, G.V., inzh.

Determination of circuit parameters in the simulation of electromagnetic elements. Elektrichestvo no.8:26-28 Ag '63. (MIRA 16:10)

1. Chelyabinskiy politekhnicheskiy institut.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

ACC NR: AP7001418 (N) SOURCE CODE: UR/0413/66/000/021/0133/0133

INVENTOR: Suvorov, G. V.; Guliyants, R. Ts.

CRG: none

TITLE: Device for the automatic measurement of mean wind direction. Class 42, No. 188073

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 133

TOPIC TAGS: wind, wind direction, wind direction instrument, wind measurement, wind meter

ABSTRACT: An Author Certificate has been issued for a device for the automatic measurement of mean wind direction. The device consists of a wind-direction sensor, a servosystem with synchro control, an electromagnetic clutch, a reduction gearing, a time relay, and scales for instantaneous and mean wind direction. To make it possible to increase the averaging-time interval, the device is equipped with a synchro for setting the mean wind-direction scale at the instantaneous wind-direction value prior to averaging, through periodic connection of the relay to the mean wind-direction scale. The device is also equipped with an electromechanical unit for comparing instantaneous wind-

UDC: 551.508.53

Card 1/2

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

ACC NR: AR7002213 (AN) SOURCE CODE: UR/0271/66/000/010/A029/A029

AUTHOR: Bortsov, Yu. A.; Shestakov, Yu. S.; Suvorov, G. V.

TITLE: Experimental determination of the parameters of nonlinear systems in electric drives

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychistel'naya tekhnika, Abs. 10A215

REF SOURCE: Sb. Avtomatizir. elektroprivod proizv. mekhanizmov. T. I. M.-L., 1965, 206-208

TOPIC TAGS: nonlinear system, electric drive,

ABSTRACT: A method of determining the parameters of elements in electrical drive systems is discussed. A description is given of a device which was developed on the basis of this method and which permits sufficiently rapid determinations of the parameters necessary for modeling nonlinear systems in electrical drives. The dynamics of nonlinear electromagnetic elements (excitation circuits of electric machines, EMU, MU, amplidynes, magnetic amplifiers, etc.) which are the basic

Card 1/2 UDC: 62-83

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

ACC NR: AR7002213

elements in drives, is characterized by magnetization curves, the demagnetization coefficient and rated time constants of the excitation circuit (T_E) and short-circuit contour (T_S). T_E may be determined from the increment (decrement) of the magnetic flux from zero to the base value, and does not depend on the shape of the applied voltage or the presence of magnetically-connected circuits, so that often it is not necessary to set up a special circuit for the experiment, and the measurements may be made without disconnecting the element from the overall system. This is the most important feature of the proposed method for determining the rated time constant. The principle of measuring the coefficient of feedback, the electromechanical time constant, and T_S is discussed. A block diagram is given of the device and of its basic technical characteristics. The text includes illustrations. There are 2 references. [Translation of abstract] [SP]

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Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

ARTYUSHIN, N.K.; SUVOROV, G.Ya., starshiy inzh.

Construction and adjustment of a radio relay line using RM-24/A apparatus. Vest. sviazi 22 no.5:6-8 My '62. (MIRA 15:5)

1. Glavnyy inzh. Volgogradskoy mezhdugorodnoy telefonnoy stantsii (for Artyushin).

(Radio relay systems)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, I.A.

Ways of increasing labor productivity. Ogneupory 29 no.12:535-536 '64. (MIRA 18:1)

1. Domodedovskiy ogneupornyy zavod.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, I. F.

Kurs vysshei matematiki (Course in higher mathematics). Dlia tekhnikumov. Moskva, "Sov. nauka", 1953, 295 p.

SO: Monthly List of Russian Accessions, Vol. 7, No. 6, Sep. 1954

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, I.F.; SOROKIN, I.S., redakter; GUBER, A., tekhnicheskiy redakter.

[Course in higher mathematics for technical schools] Kurs vysshei matematiki dlia tekhnikumov. Izd. 3-e. Moskva, Gos. izd-vo "Sovetskaia nauka", 1956. 351 p. (MLRA 9:4)
(Mathematics)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, I.F. (Saratov)

Knowledge of mathematics of secondary school graduates. Mat. v shkole no.2:34-36 Mr-Ap '56. (MLRA 9:6)
(Mathematics--Problems, exercises, etc.)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

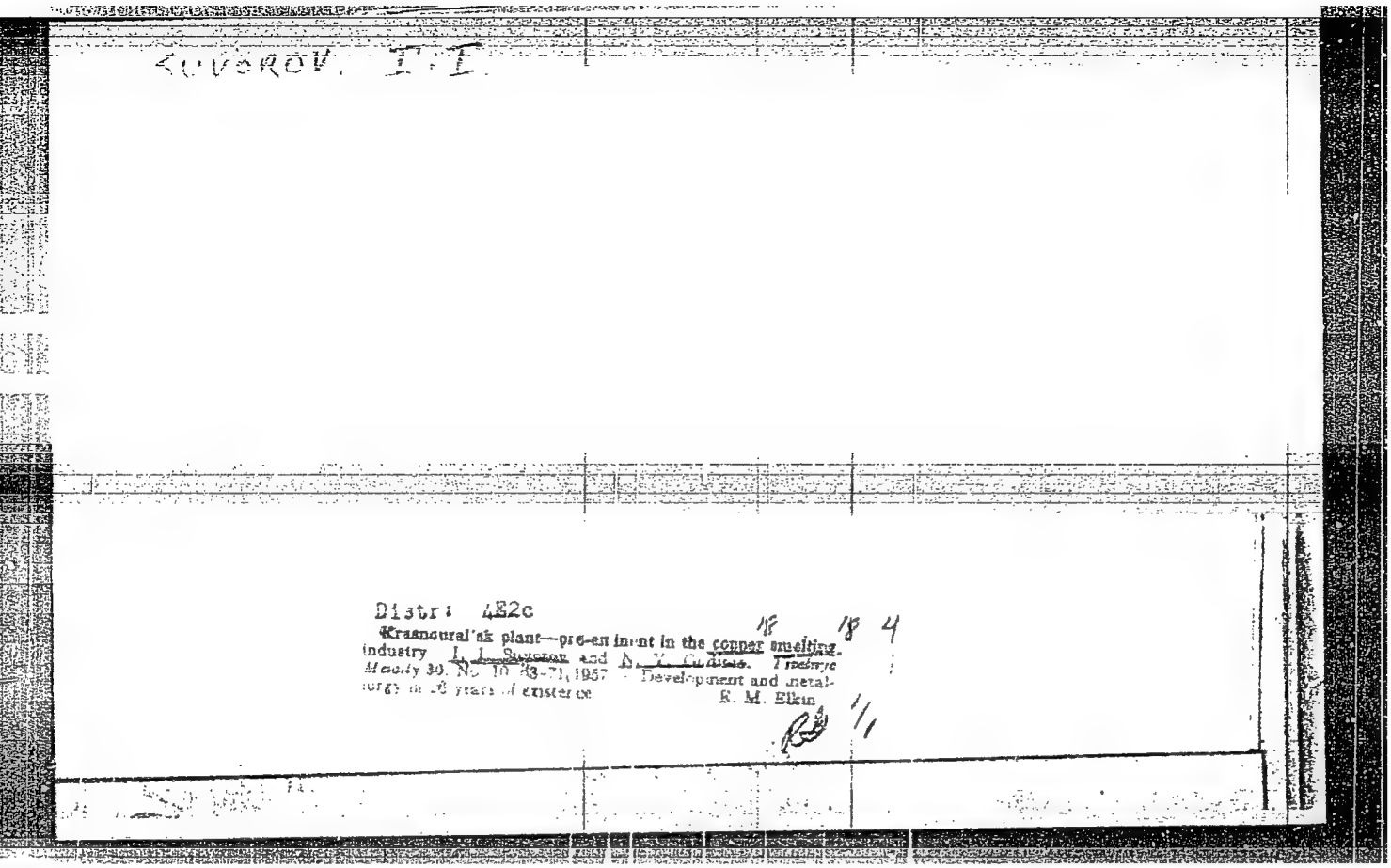
"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, I.F.; SOROKIN, I.S., red.; ROZANOVA, G.K., red.; TITOVA, L.L., tekhn.red.

[Textbook of higher mathematics for engineering schools] Kurs vysshei matematiki dlia tekhnikumov. Izd.5. Moskva, Gos.izd-vo "Vysshaia shkola," 1960. 351 p. (MIRA 13:9)
(Mathematics--Textbooks)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4



SUVOROV, I. I.

Distr: 4E2c

18 18 4

Krasnoural'sk plant—pre-eminent in the copper smelting industry. I. I. Suvorov and N. V. Gudimov. Tsvetnye Metally 30, No. 10, 63-71, 1957. Development and metallurgy in 26 years of existence. E. M. Elkin

1/1

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, I.I.

The DG-65 diesel-electric generators. Biul.tekh.-ekon.inform. no.12:37-38 '58. (MIRA 11:12)
(Diesel-electric power plants)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, I. K., Engineer

"Effect of the Outer Parts of a Strip on Conditions of Metal Deformation in Rolling." Sub 20 Dec 51, Moscow Order of Labor Red Banner Inst of Steel imeni I. V. Stalin

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

PAVLOV, I.M.; SUVOROV, I.K., kandidat tekhnicheskikh nauk.

Effect of the outer parts of the strip on the deformation of metal rolling. Sbor.Inst.stali no.31:177-211 '53. (MLRA 9:9)

1.Chlen-korrespondent AN SSSR (for Pavlov)
(Rolling (Metalwork)) (Sheet metal)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

FURMAN, Yakov Borisovich; SUVOROV, I.K., redaktor; GOLYATKINA, A.G., redaktor izdatel'stva; ATTOPOVICH, M.K., tekhnicheskiy redaktor

[Assistant operators of shape mills] Podruchnyi val'tsovshchika sortovykh stanov. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 220 p. (MLRA 10:1)
(Rolling mills)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

18(0)
AUTHOR: Suvorov, I. K. SOV/163-58-4-23/47

TITLE: Determination of Forces in Edging Semifinished Material on a Continuous Rolling Mill (Opredeleniye usiliy pri kantovanii raskatov na nepreryvnykh stanakh)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 4, pp 134-140 (USSR)

ABSTRACT: The method and examples for computation of the metal pressure on the edger rolls are given. Changes of stress distribution are examined in the cross section of a round bar at the transition from elastic torsion (I) to elastic-plastic torsion (II) without consolidation and to plastic torsion (III) without consolidation. The moments required in elastic and plastic torsion of a cylindrical bar are determined. Formula (1) makes it possible to determine the torque at the elastic torsion of the cylindrical bar, as well as the tangential stress on the circumference and in the cross section of the bar if the torque is known. Formula (2) permits to determine the torque at plastic torsion of the bar. Both formulas only apply to a round bar. To determine the stresses at elastic torsion of a bar with any cross section, the method of

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Determination of Forces in Edging Semifinished Material on a Continuous Rolling Mill

SOV/163-58-4-23/47

Prandtl (Prantl') is much in use. Prandtl suggested to make use of the analogy with a membrane or a soap film. This method permits to pass on to the analysis of torsion of bars with noncircular cross section beyond the elastic limit with help of the analogy suggested by Nadai (Ref 2) representing a development of the membrane analogy. On account of this, a formula is obtained which corresponds to formula (2) derived in quite a different way. This confirms the applicability of Nadai's method for determining the torque at plastic torsion of bars. Formula (3), which is given here, determines the twisting moment of the square strip to be edged at the transition from a square box pass to a diamond pass, for instance, and formula (4) at the transition from a rectangular box pass to a square one. As such operations are usually done in continuous rolling mills, the metal pressure on the edger rolls is here determined. Formula (5) derived permits to determine the full pressure on the contact surface of the edger rolls. Finally an example is given. There are 6 figures

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Determination of Forces in Edging Semifinished Material on a Continuous Rolling Mill

SOV/163-58-4-23/47

and 2 Soviet references.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: April 21, 1958

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, I.K.

Speed of horizontal metal deformation during drawing. Izv. vys.ucheb.zav.; chern.met. no.5:68-71 '60. (MIRA 13:6)

1. Moskovskiy institut stali.
(Wire drawing) (Deformations (Mechanics))

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

PAVLOV, I.M.; SUVOROV, I.K.; FOMENKO, Yu.Ye.

Improved cylindrical torsiometer with a cut-in strip. Izv. vys.ucheb.zav.; chern.met. no.5:72-75 '60. (MIRA 13:6)

1. Moskovskiy institut stali.
(Torsion) (Measuring instruments)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, I.K.

Leading in rolling with nondriving rolls. Izv.vys.ucheb.zav.; chern.met. no.7:99-102 '60. (MIRA 13:8)

1. Moskovskiy institut stali.
(Rolling (Metalwork))

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

S/148/60/000/009/013/025
A161/A030

AUTHORS: Pavlov, I.M., Suvorov, I.K., and Fomenko, Yu.Ye.

TITLE: An investigation of scale on free-cutting steel and its effect on friction in rolling

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no. 9, 1960, 95-101

TEXT: Free-cutting steel causes difficulties in rolling, i.e. the grip of the rollers is not firm, the rollers slip on metal, the metal cracks and tears. Same difficulties are experienced with this steel abroad. The steel per GOST 1414-54 standard contains 0.08-0.30% S, up to 0.15% P and 0.45% C. Sulphur content sometimes reaches 0.5%. The causes of the trouble in rolling have not yet been investigated and no data on the matter exist in works on the melting, deoxidation and teeming of free-cutting steel (Ref.1-4). The described investigation has been carried out in rolling in a "750" billet mill, with free-cutting "A12" and "A12A" and structural steel for comparison. Scale was collected from under the rolls in the mill

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An investigation of scale ...

portions of ingots and from rolled strip. It varied only insignificantly. Conclusions: 1) A difficult grip is characteristic of free-cutting steel compared with other steel grades. 2) The chemical composition of the scale changes in the rolling process, particularly the sulphur content. 3) The softening point of the scale collected in the rolling process is in the range 850-1050°C, and the softening point is lower with a higher sulphur content. 4) Increased sulphur content in the scale makes the gripping difficult. 5) The segregation of sulphur is insignificant in rolled steel and in ingots. 6) Sulphur segregation is not clearly expressed in steel with a high sulphur content; the sulphur content difference is low on a different level and across in the ingots. 7) The sulphur distribution is more even in free-cutting steel deoxidized with aluminum, and the size of sulphurous inclusions is smaller. 8) The sulphur distribution improves in rolled metal during the rolling process. This is more clearly expressed in "A12A" steel deoxidized with aluminum. There are 5 figures, 3 tables and 5 Soviet-bloc references.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: 26 January 1960

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

Investigation of free-cutting steel alloyed ....

as well as the machinability and mechanical properties. Experiments have been carried out to this end at the electrometallurgical laboratory of the Moscow Steel Institute. The most even distribution in sulfides has been found in ingots alloyed with 0.19 % Ti. The machinability was tested by the standard "Two-cutters method" consisting in cutting with two cutters on a lathe (in this instance one cutter was carbide tipped and the other made of free-cutting steel), with electric wires welded to the cutters and connected to a galvanometer; the e.m.f. appearing in the ciruit due to different thermoelectric properties of the cutters is proportional to the heat forming in the metal being machined, and the higher the resistance to cutting is, the higher the current in the circuit. "A12" steel with 0.19 % Ti had the same machinability as the common steel without Ti, but the machinability was perceptibly worse when the Ti content was over 0.2 %. The friction factor in "A12" steel with 0.2 % Ti was considerably higher than in normal "A12" steel and even higher than in rolling the CT.3 (St.3) steel. Conclusion: Sulfurous "A12" steel with titanium has a high machinability, high friction factor in rolling and will cause no gripping diffi-

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, I.I.

Expansion during rolling with noncraving rolls. Izv. vys. ucheb. zav.; chorn. met. no. 1:115-120 '61. (MIRA 14:2)

1. Loskovskiy institut stali.
(Rolling (Metalwork))

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

PAVLOV, I.M.; SUVOROV, I.K.

Investigation of leading in rolling with nondriving rolls and the application of brakes. Izv.vys.ucheb.zav.; cern.met. 4 no.5:98-101 '61. (MIRA 14:6)

1. Moskovskiy institut stali.
(Rolling (Metalwork))

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

PAVLOV, I. M.; OSADCHIY, V. Ya., kand. tekhn. nauk; SUVOROV, I. K., kand. tekhn. nauk

Increasing the resistance pf passes on 250 mills to sticking and wear. Sbor. Inst. stali i splav. no.40:225-234 '62. (MIRA 16:1)

1. Chlen-korrespondent AN SSSR (for Pavlov).

(Rolling mills)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

S/148/63/000/001/010/019
E081/E483

AUTHOR: Suvorov, I.K.

TITLE: The relationship between the contact friction and stress state conditions in plastic deformation of metals

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no.1, 1963, 106-110

TEXT: A new method is described of determining the friction coefficient f in rolling. The advantage of the method is that it does not require elaborate equipment, the measurements being carried out on a pair of free-running, undriven rolls provided with a dynamometer for measuring the roll force. The conditions obtaining in various rolling processes are simulated by pushing or pulling the test piece between the rolls. Using the results of his earlier work, the author derived a formula for f ; its simplified form is

$$f = \frac{Q - p \cdot B_{av} \cdot \Delta h}{2p \cdot B_{av} \cdot r(2\gamma - \alpha)} \qquad (3)$$

where Q - the pushing or the pulling force, p - the roll pressure,

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The relationship between ...

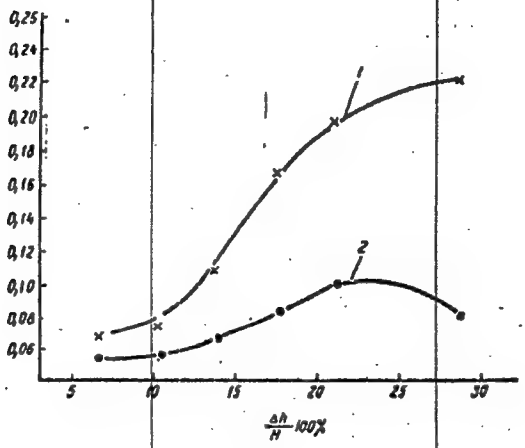

Fig.2.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, I.K.

Connection between friction with stressed state conditions during the plastic deformation of metals. Izv.vys.ucheb.zav.; chern.met. 6 no.1:106-110 '63. (MIRA 16:2)

1. Moskovskiy institut stali i splavov.
(Rolling (Metalwork)) (Friction)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

KRYLOV, A.A.; KUZNECHIKOV, V.P.; SUVOROV, I.M.; CHIGIRINSKIY, A.N.

Hypoplastic states in hematopoiesis as a preceding stage of acute leukemia. Probl. gemat. i perel. krovi 9 no.1:47-48 Ja '64. (MIRA 18:1)

1. Iz kafedry voyenno-morskoy i gospital'noy terapii (nachal'nik - prof. Z.M. Volynskiy) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SHVOROV, Ivan Petrovich; KALITA, Vasiliy Tikhonovich; LINDORF, L.S., redaktor; SKVORTSOV, I.M., tekhnicheskiy redaktor.

[Mastering the operation of hydrogen cooled turbogenerators] Osvoenie ekspluatatsii turbogeneratorov s vodorodnym okhlazhdeniem. Moskva, Gos.energ.izd-vo, 1954. 127 p. (MIRA 8:4)
(Electric generators)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

PODOL'SKIY, Yuriy Yakovlevich; SUVOROV, I.V., red.; ZHUKOVA, Ye.G., tekhn. red.

[Accounting and the analysis of the work of industrial equipment] Uchet i analiz raboty proizvodstvennogo oborudovaniia. Leningrad, Izd-vo Leningr. univ., 1962. 61 p. (MIRA 16:3)
(Industrial equipment) (Industrial statistics)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, K., podpolkovnik, voyennyy shturman pervogo klassa

Airplanes approach the airlanding area. Av.i kosm. 44 no.2:55-59 '62. (MIRA 15:3)

(Airborne troops)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

1. SUVOROV, K. G.
2. USSR (600)
4. Poultry - Feeding and Feeding Stuffs
7. Using liquid yeast as poultry feed. Ptitsevodstvo no. 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, K.G.; MINAYEV, I.M., starshiy veterinarnyy vrach.

Use of antibiotics at the Kuntsevskaia poultry plant. Veterinariia 32 no.8:61-63 Ag '55. (MIRA 8:10)

1.Direktor ptitsefabriki (for Suvorov).
(ANTIBIOTICS) (POULTRY--DISEASES AND PESTS)

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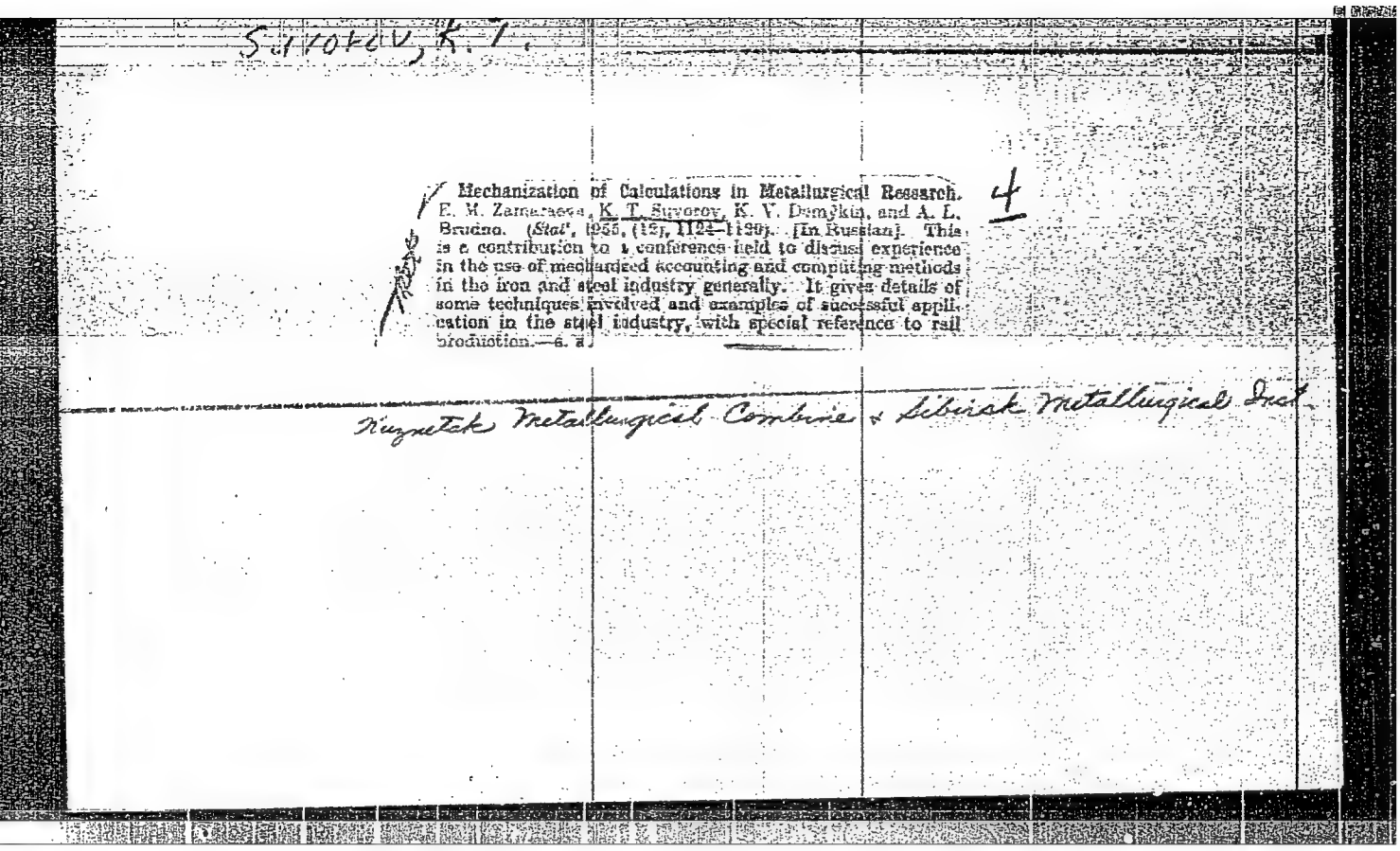

Suvorov, K. T.

Mechanization of Calculations in Metallurgical Research. E. M. Zamarayeva, K. T. Suvorov, K. V. Demykin, and A. L. Brudno. (*Stal'*, 1955, (15), 1124–1130). [In Russian]. This is a contribution to a conference held to discuss experience in the use of mechanized accounting and computing methods in the iron and steel industry generally. It gives details of some techniques involved and examples of successful application in the steel industry, with special reference to rail production.—G. A.

4

Kuznetsk Metallurgical Combine + Sibirsk Metallurgical Inst.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

ARKHANGEL'SKIY, A.L., dots.; SUVOROV, L.A.

[Outlines of the relief, hydrography, and climate of Sverdlovsk Province; reference textbook] Ocherki rel'efa, gidrografii i klimata Sverdlovskoi oblasti; uchebno-spravochnoe posobie. Sverdlovsk, Ural'skii politekhn. in-t, 1961. 44 p. (MIRA 18:7)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

Suvorov, L.D.

89-3-20/30

AUTHOR: Suvorov, L.D.

TITLE: A Small "Hot" Laboratory (Malen'kaya "goryachaya" laboratoriya) For Works at Preparations up to 100 Curies (Dlya raboty s preparatami do 100 kyuri)

PERIODICAL: Atomnaya Energiya, 1958, Vol. 4, Nr 3, pp. 304 - 305 (USSR)

ABSTRACT: The construction plan for a "hot" cell approved in practice is roughly sketched and it is maintained that every organization itself disposing of not too small a workshop can construct the whole cell.
The main part of the cell consists of a special cabinet which consists of 5 departments. A fundamental slab of concrete forms the bottom conclusion of the cabinet and to it a cast-iron plate, 100 to 250 mm thick, is fixed, which forms the front of the cell. The back- and side walls are made of concrete and the preparation is introduced through a special aperture in the back wall. In the front wall there are various remote control implements and three large lead glass

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A Small "Hot" Laboratory - For Works at Preparations up to 100 Curies

windows through which the total interior can be seen. The left department, which is equipped with rubber gloves going through it, is assigned for α- and β-activities, which come from the middle chamber after they have been worked or unpacked or dosimetered there.
In the right department the physical measurings of the radioactive preparations are carried out. In the middle department mainly the decay of strong preparations is to take place. There are 2 figures.

AVAILABLE: Library of Congress

1. Atomic energy plants-Safety measures

Card 2/2

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ACC NR: AT6031460

conducted and the results plotted. The nymph-to-adult distribution among the ticks was also studied. The advantages and disadvantages of standard field methods were discussed.

[WA-50; CBE No. 12]

SUB CODE: 06,08/ SUBM DATE: 17Sep65/ ORIG REF: 011/

Card 2/2

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ACC NR: AT6031461

greatest tick populations were found in second-growth forest about five years after cutting. Using specially prepared maps of forest types for plotting data greatly simplifies the recording and visualization of information when superimposed on similar maps showing host distribution, distribution and prevalance of ticks at various stages in their life cycles, and climatic data. [WA-50; CBE No. 12]

SUB CODE: 06,08/ SUBM DATE: 17Sep65/ ORIG REF: 021/

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

SUVOROV, Leonid Mikhaylovich; PITAEV, N.A., inzh.retsenzent; SHKLYAR, R.Sh., kand.tekhn.nauk, red.; YERMAKOV, N.P., tekhn.red.

[Elements of X-ray detection of defects; a manual for X-ray operators] Elementy rentgenodefektoskopii; posobie dlia rentgenos"dmshchikov. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1957. 122 p. (MIRA 11:2)
(X rays--Industrial applications)
(Machinery industry--Quality control)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

An Apparatus for the Contactless Measurement of the Electric Conductivity of Electrolytes and Other Metals

SOV/32-24-7-48/65

system of the apparatus caused this way are measured by a microammeter. A graphical representation of measuring curves obtained with aqueous solutions of sulfuric acid and caustic soda is given; from it may be seen that the measuring scheme has a sufficient accuracy. For a certain specific conductivity a definite operation frequency is recommended. The apparatus described may be used in the chemical analysis of divers materials, as, for instance, in soil investigations, corrosion investigations etc. There are 2 figures.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

Suvorov, L. M.

Defektoskopiya metallov; sbornik statey (Flaw Detection in Metals; Collection of Articles) Moscow, Oborongiz, 1959. 458 p. Errata slip inserted. 4,550 copies printed.

Ed.: D.S. Shrayber, Candidate of Technical Sciences; Ed.: M.C. Lagovskaya; Tech. Ed.: V.P. Rozhin; Managing Ed.: A.S. Zaymovskaya, Engineer.

PURPOSE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.

COVERAGE: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutes and plants of magnetic, electrical, X-ray, ultrasonic, and fluorescent-penetrant methods of flaw detection are described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.

Kulik, A.A. Magnetization of Parts by Alternating Current and Inspection by the Magnetic-particle Method 47

Ryskina, D.G. Measuring Magnetic Fields on Parts of Intricate Shape and Inspection of Blades by the Magnetic-particle Method 55

Mikhnevich, P.G. Equipment for Inspecting Parts by the Magnetic-particle Method 62

Semenov, E.M. Automatic Flaw Detector for Inspecting Mass-produced Steel Parts 76

Rozhdestvenskiy, S.M., and G.Yu. Sila-Novitskiy. Electromagnetic Induction Method of Flaw Detection 80

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Shrayber, D.S., and I.I. Tsumin. Application of Ultrasonic Vibrations for Processing and Testing Materials 421

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S/032/60/026/009/005/018
B015/B058

AUTHOR: Suvorov, L. M.

TITLE: Control of Metallic Details by Means of Eddy Currents Using a Movable Coil

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 9, pp. 1096-1101

TEXT: The electromagnetic processes occurring in a flat nonmagnetic workpiece when measuring its thickness or that of a plating are analyzed. Moreover, problems are discussed concerning the determination of material defects and electrical conductivity by means of the eddy-current method. Experiments for the determination of the thickness of aluminum sheets showed that values agreeing with the experimental data (Fig. 2) are obtained according to equation $\Phi_s = \Phi_o\left[1-CD^2\sqrt{\sigma f}\,(1-\exp(-2k\delta)\cos, 2k\delta)\right]$ (6) (Φ_s = summary magnetic flux, Φ_o = basic magnetic flux, D = measuring coil diameter, C = coefficient, σ = specific

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

Control of Metallic Details by Means of Eddy Currents Using a Movable Coil

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B015/B058

conductivity of the metal, f = current frequency). The highest measuring sensitivity is achieved when the current frequency is selected in such a way that the value kδ for the maximum metal thickness does not exceed 0.5. In Fig. 3, a diagram is shown for selecting the frequency for some metals and alloys at kδ = 0.5. When determining the thickness of platings, the sensitivity and accuracy of the method increases with the difference in the electrical conductivity of the base material and plating. One can also determine the thicknesses of double-layer metal platings according to the eddy-current method, if a difference in the electrical conductivity of the plating metals and the base exists, it being necessary, in so doing to operate with three frequencies. If, on the other hand, the electrical conductivity is determined, the effect of the metal-layer thickness must be completely eliminated by a suitable selection of the frequency (from the diagram in Fig. 3). The eddy-current method can be applied for the determination of material defects in non-magnetic materials, since various material defects reduce electrical conductivity. The maximum depth down to which material defects can be determined, corresponds to a value of kδ = 0.8-0.9 and only depends on

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SUVOROV, L.M.

Characteristics of the X-ray pattern of 1Kh18N9TL and 1Kh18N9L steel. Lit. proizv. no.2:37 F '63. (MIRA 16:3)
(Steel alloys--Metallography)

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S/128/63/000/002/002/002
A054/A126

AUTHOR: Suvorov, L. M.

TITLE: Special features of X-ray photographs of 1 X18H 9 TJ (1Kh18N9TL) and 1 X18H 9JI (1Kh18N9L) steels

PERIODICAL: Liteynoye proizvodstvo, no. 2, 1963, 37

TEXT: On the X-ray photographs of some castings of the above mentioned steel grades dark spots and lines may be observed which, according to experience are indications of shrinkage, porosity, etc. in the steel structure. However, the micro- and macroanalyses of such castings did not actually reveal the flaws expected from the interpretation of the films. Upon investigating the causes of this phenomenon it was found that the "pseudo-defects" as indicated by the X-ray film mostly occur in ribbed castings or in those with protruding flanges, thin bridgings, etc. (some examples are given in a figure). It is supposed that upon penetrating these configurations, the X-rays are diffracted and produce in the case of ribs, projections, etc. dark spots on the film. When the surface of these configurations forms a slight angle with the orientation of the X-rays,

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Special features of...

lines will appear on the radiograph. Two means are suggested to neutralize this effect: increase the thickness of ribs, projections 2 - 3-fold by arranging a steel strip under them or, if their structure has not to be investigated, surround them with a 1 - 2 mm thick lead strip; if it is not possible to reduce the X-ray diffraction by this measure, the sector in question has to be X-rayed a second time from a distance of 3 - 10 cm in such a way that the position of the casting is somewhat shifted in relation to the X-ray tube. If thereupon the shape of the dark spots or lines changes, then it may be taken that there is no flaw in the metal structure. Another feature of the 1Kh18N9TL radiographs is that it may show a lamination indicating the orientation of crystallization in the solidifying metal. There is 1 figure.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

AUTHOR: Suvorov, L.N. 32-3-36/52

TITLE: An Electric Induction Device for the Investigation of Cracks in Parts Made From Nonmagnetic Alloys (Elektroinduktivnyy pribor dlya obnaruzheniya treshchin v detalyakh iz nemagnitnykh splavov)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 3, pp. 354-356 (USSR)

ABSTRACT: The plant recommended works in accordance with the principle of the generation of eddy currents in nonmagnetic metal, which are influenced by existing cracks or other material defects and can thus be investigated. The basic components of the device are a generator, an oscillatory circuit and a recording device, as may be seen from a schematical drawing. Graphs of investigations carried out with two different alloys are given. It was found that, in the case of cracks located lower down, a low height of the crack, and a larger intermediate layer, accuracy of observation is reduced. The cylindrical probe used for investigations has a magnetic conduction line consisting of Armco iron foils and is constructed in such a manner that a considerable decrease of the "boundary effect" is

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An Electric Induction Device for the Investigation of Cracks in Parts Made From Nonmagnetic Alloys

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attained. The necessary amperage does not exceed 50 kilowatts. There are 5 figures.

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1. Metallurgy-Inspection methods

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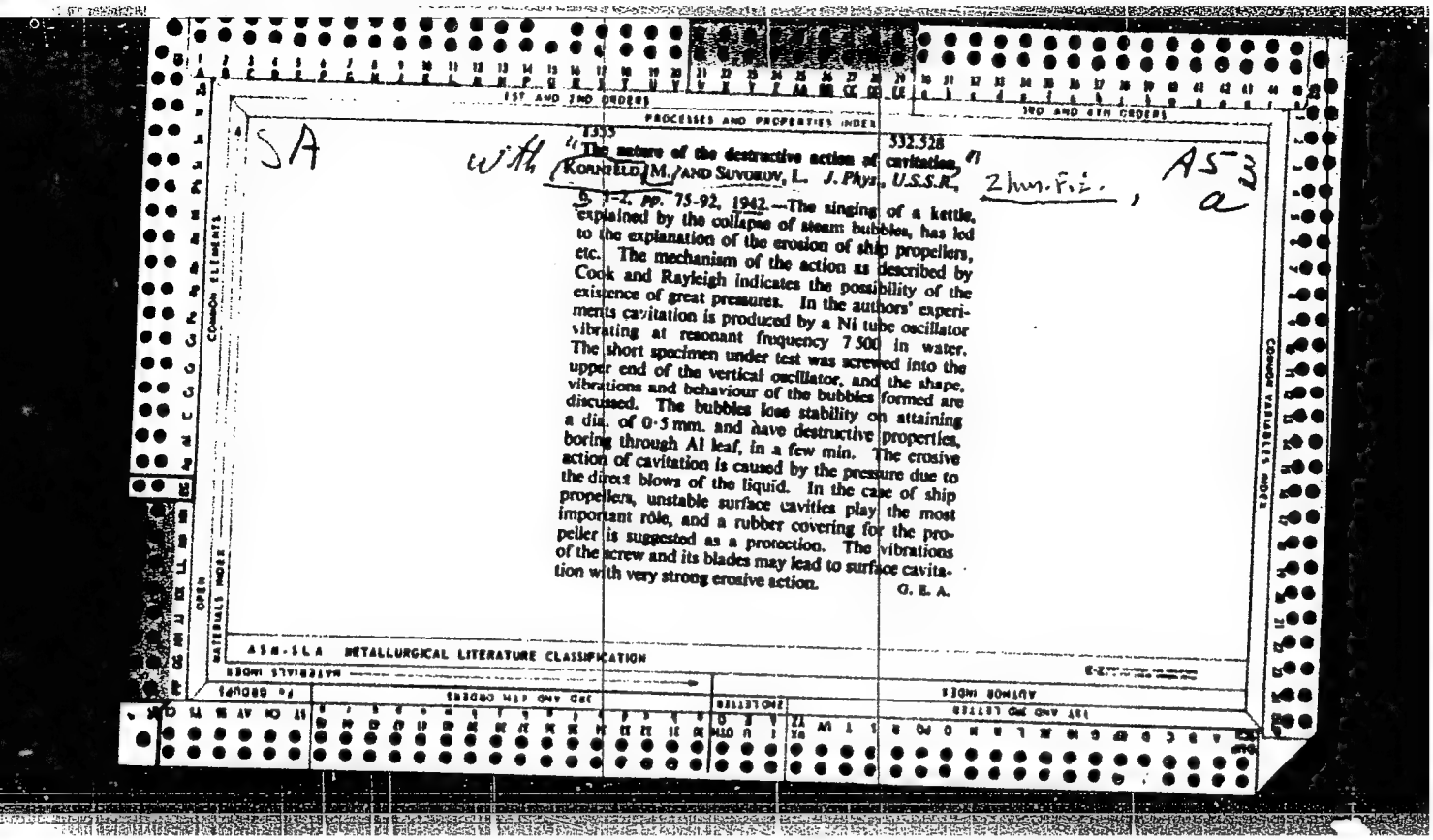
1ST AND 2ND ORDERS



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3RD AND 4TH ORDERS

SA

1355 532.528

with "The nature of the destructive action of cavitation," KORNFELD, M., AND SUVOROV, L. J. Phys., U.S.S.R., 6, 1-2, pp. 75-92, 1942.—The singing of a kettle, explained by the collapse of steam bubbles, has led to the explanation of the erosion of ship propellers, etc. The mechanism of the action as described by Cook and Rayleigh indicates the possibility of the existence of great pressures. In the authors' experiments cavitation is produced by a Ni tube oscillator vibrating at resonant frequency 7 500 in water. The short specimen under test was screwed into the upper end of the vertical oscillator, and the shape, vibrations and behaviour of the bubbles formed are discussed. The bubbles lose stability on attaining a dia. of 0·5 mm. and have destructive properties, boring through Al leaf, in a few min. The erosive action of cavitation is caused by the pressure due to the direct blows of the liquid. In the case of ship propellers, unstable surface cavities play the most important rôle, and a rubber covering for the propeller is suggested as a protection. The vibrations of the screw and its blades may lead to surface cavitation with very strong erosive action. G. E. A.

2hm. F.i., A53 a

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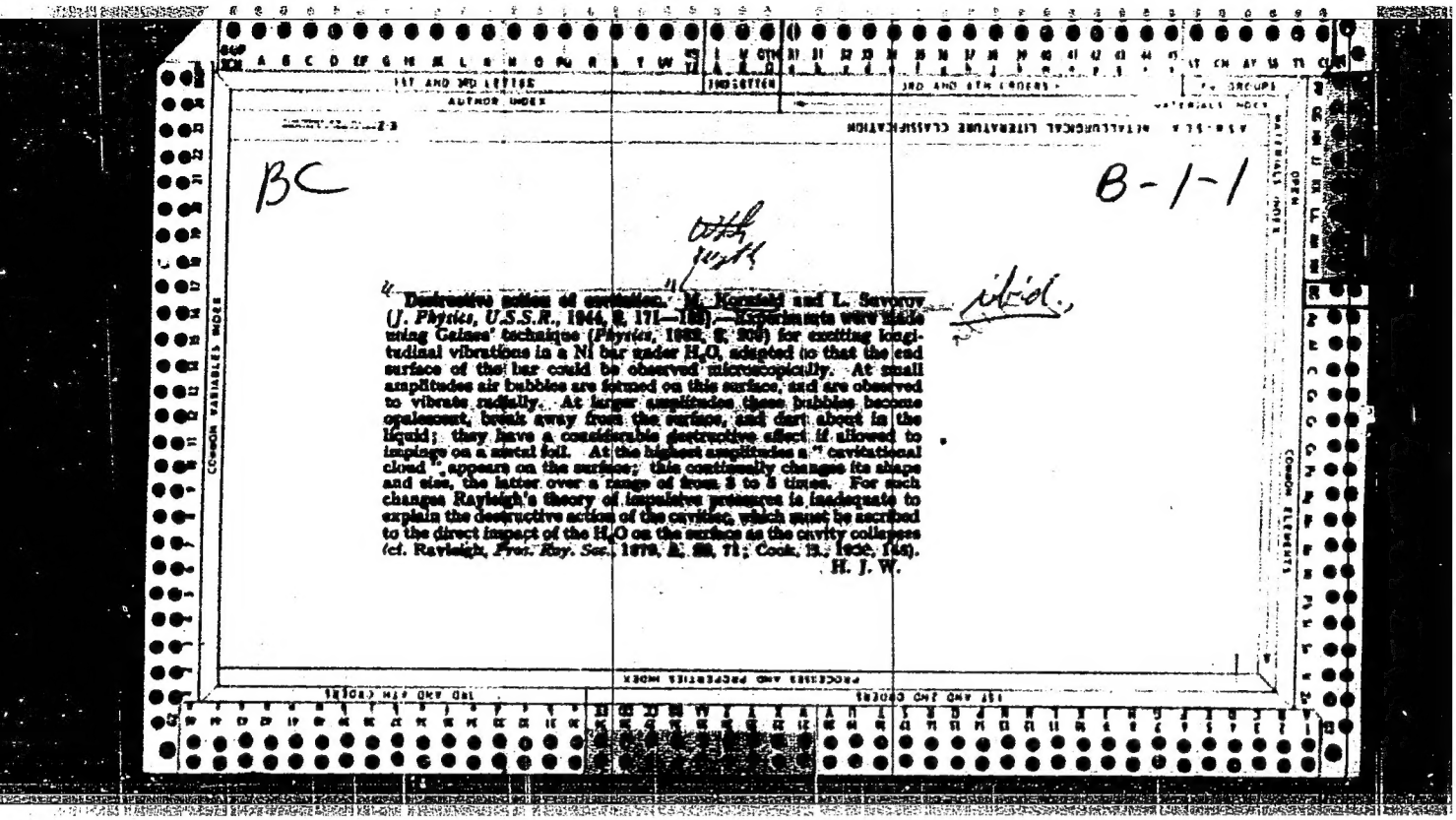

BC

B-1-1

with [illegible]

"Destructive action of cavitation." M. Kornfeld and L. Suvorov (*J. Physics, U.S.S.R.*, 1944, 8, 171—[illegible]).—Experiments were made using Gaines' technique (*Physics*, [illegible], 8, [illegible]) for exciting longitudinal vibrations in a Ni bar under H_2O, adapted so that the end surface of the bar could be observed microscopically. At small amplitudes air bubbles are formed on this surface, and are observed to vibrate radially. At larger amplitudes these bubbles become opalescent, break away from the surface, and dart about in the liquid; they have a considerable destructive effect if allowed to impinge on a metal foil. At the highest amplitudes a "cavitational cloud" appears on the surface; this continually changes its shape and size, the latter over a range of from 3 to 5 times. For such changes Rayleigh's theory of impulsive pressures is inadequate to explain the destructive action of the cavities, which must be ascribed to the direct impact of the H_2O on the surface as the cavity collapses (cf. Rayleigh, *Proc. Roy. Soc.*, 1879, A, [illegible], 71; Cook, B., [illegible], 146).

H. J. W.

ibid.

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SEVEROV, L. Y., ALIKHANOV, A. I., ZAVOYSKIY, V. K., SERDUK, R. L., and ERSHLER, B. V.

"A Boiling Homogeneous Nuclear Reactor for Power," a paper presented at the Atoms for Peace Conference, Geneva, Switzerland, 1955

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ALIKHANOV,A.I.; ZAVOYSKIY,V.K.; SMIRNOV,R.L.; KRSHLER,B.V.; SUVOROV,L.Ya.

[Boiling homogeneous nuclear power reactor] Kipiashchii energeticheskii gomogennyi iadernyi kotel; doklady, predstavlennye SSSR na Mezhdunarodnuiu konferentsiiu po mirnomu ispol'zovaniiu atomnoi energii. Moskva, 1955. 13 p. [Microfilm] (MLRA 9:3)
(Nuclear reactors)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020009-4

S/089/60/009/01/01/011
B014/B070

AUTHORS: Ershler, B. V., Torlin, B. Z., Suvorov, L. Ya.

TITLE: On the Theory of the Stability of a Homogeneous Boiling Water Reactor /9

PERIODICAL: Atomnaya energiya, 1960, Vol. 9, No. 1, pp. 5-9

TEXT: First, the kinetic equations of a homogeneous boiling water reactor are developed by taking account of the volume boiling of the moderator (water). From these equations the following conclusions can be drawn: (1) For slight superheating (by some degrees), the hydromechanical mechanism of boiling can set in in a homogeneous boiling water reactor. (2) The magnitude of stationary superheating Δt_o for the hydromechanical mechanism of boiling is determined by the conditions of motion of boiling water existing in the reactor. The quantity Δt_o is characteristic of these working conditions. (3) An analysis of the kinetic equations shows that in a given range Δt_o values exist which correspond to stable working conditions in a wide range of power. If Δt_o goes beyond the

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